MONITOR WELL PRE-SPUD PROPOSAL

1) WELL NAME/NUMBER: PL-4-Shallow

2) PROPOSED LOCATION: (a) General (on or off-site) Off-Site

(attach map) Site Area Private Land

(b) Sect 5 Twnshp 21S Rng 3E NE ¼ NE ¼ NE ¼ NW ¼

3) WELL PARAMETERS:

(a) Est. total depth 500 (ft) (b) Est. ground elevation 4462 ft

(c) Anticipated stratigraphy:

Alluvium (Santa Fe Group) from 0 ' to TD ' (depth)

_____ from _____ ' to _____ ' (depth)

(d) Anticipated water bearing horizon(s):

Alluvium (Santa Fe Group) at 450 ' (depth)

_____ at _____ ' (depth)

(e) Anticipated static water level 430 ' (depth)

4) WELL PURPOSE/JUSTIFICATION (attach maps and table if needed):

Shallow monitor well of a 3-well cluster designed to investigate groundwater quality vertically in the aquifer on the down side of a major fault.

5) PROPOSED DRILLING PARAMETERS:

(a) Drilling method(s): (air/foam/mud rotary/auger/etc.)

Mud Rotary from 0 ' to 100 ' (depth)

Air/Foam Rotary from 100 ' to TD ' (depth)

Air-foam method: "Quik-Foam" surfactant/water mixture used in conjunction with filtered compress air.

Mud-rotary method: Bentonite mud/water mixture.

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(b) Lithology sampling - collect sample every:

5' intervals Method Grab from 0 ' to TD ' (depth)
Core type 6" Dennison from ' to ' (depth)
2" Christiansen from ' to ' (depth)

(c) Anticipated drilling additive(s): None

7) PROPOSED WELL COMPLETION DESIGN/MATERIALS

(a)

Casing:	Material	Diameter	From	To	Comments
Temporary					
Surface		10"	0	100' max	
Screen (10')	stainless ++	4"	Determine from geophysical logs		
Completion Pipe	stainless +	4"	0	TD	*

Standard material: Blank riser, silt trap, locking cap

N/A Data not available at this time
* for deep completions (450 feet or more)
** for shallow completions
\+ Type 304, Schedule 5 stainless steel
Type 304, Schedule 10 stainless steel
++ Regular strength screen, extra strength screen used below 450 feet

(b) Filter pack: Standard 8/20 and 16/40 sand and bentonite plug(s), grout to surface.

8) PROPOSED WELL DEVELOPMENT

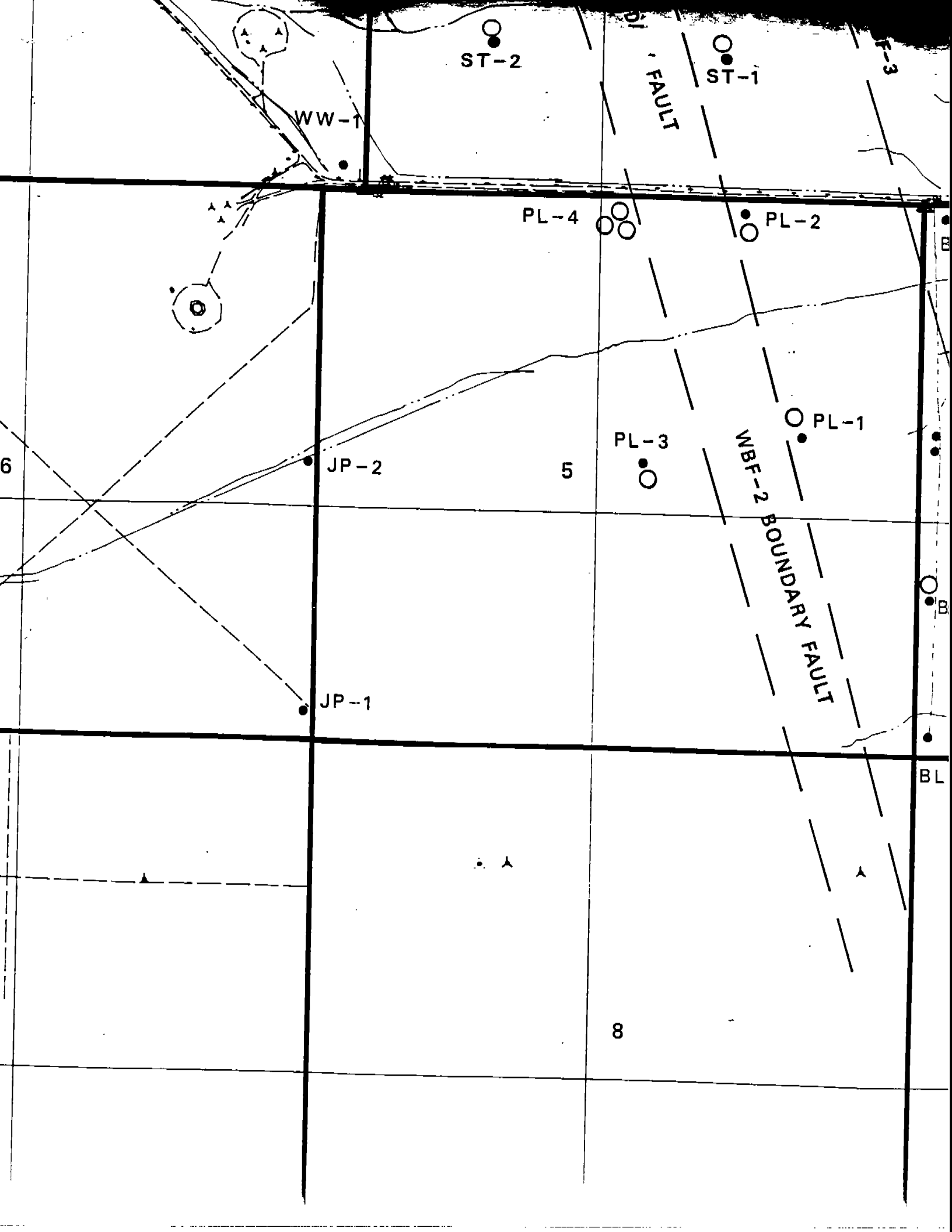
(a) Surge and bail with surge block and bailer.

(b) Pump with submersible pump until parameters stabilize.

9) WELL AUTHORIZATION

(a) Proposed by Geoscience Consultants, Ltd.

(b) Authorized Robert Mitchell (name) NASA (representing) _____ (signature)


ST-2
ST-1
F-3
FAULT
WW-1
PL-4
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PL-1
PL-3
JP-2
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